

# SECTION 15159 - ROTAMETERS

## City of San Diego, CWP Guidelines

### PART 1 -- GENERAL

#### 1.1 WORK OF THIS SECTION

- A. The WORK of this Section includes providing rotameters and accessories.

#### 1.2 RELATED SECTIONS

- A. The WORK of the following Sections applies to the WORK of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK.

- 1. Section 15150 Meters, General

### PART 2 -- PRODUCTS

#### 2.1 GENERAL

- A. **Performance:** The meters shall be designed for the service and chemicals indicated and at the indicated temperatures.
- B. **Basic Design:** Except as otherwise indicated, all rotameters in chemical solution lines shall have vertical bottom inlets and top outlets with flanged ends complying with ANSI B16.1 designed for vertical mounting. Meters in gas, air, and pump seal flushing lines shall be of the modified rotameter design with threaded ends, spring-loaded pistons, and shall be designed for mounting in any position. Meters shall be rated for a minimum working pressure of 150 psi.
- C. **Schedule:** Rotameters shall comply with the following:

<u>I.D. No.</u>	<u>Service</u>	<u>Pipe Size (In.)</u>	<u>Line Pressure (psi)</u>	<u>Flow Range ([ ])</u>	<u>Flanged or Screwed</u>
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

#### 2.2 BASIC MATERIALS

- A. **Meters for Chemical Solutions:** Rotameters for chemical solutions shall be calibrated in gallons per minute, pounds per 24 hours (for chlorine gas), or cubic feet per minute for other gases and air. The meters shall have Hastelloy C floats, 10-inch long scales, and a range of 10:1 with an accuracy of plus or minus 2 percent. The scales shall be suitable for the capacity ranges indicated. Rotameters shall include the following:

1. Chlorine Service: Cast iron, Teflon-lined, or PVC connections, with heavy borosilicate glass tubes and packing glands.
2. Activated carbon solution: Type 316 stainless steel construction with magnetically actuated float and scale.
3. Other chemicals: Type 316 stainless steel connections with heavy borosilicate glass tubes and packing glands, or other best suitable material.

B. **Meters for Water, Air, and Fuel Gas:** Rotameters for water, air, and fuel gas service shall have threaded connections and shall be calibrated in [gallons per minute] [cubic feet per minute]. The bodies shall have threaded connections, polysulphone tubes, aluminum or brass end fittings and Type 316 stainless steel internal parts. Scales shall be suitable for the capacity range shown in the schedule above. The meters shall have an accuracy of plus or minus 5 percent.

### 2.3 MANUFACTURERS

A. Meters of the type and for the indicated service shall be manufactured by the following (or equal):

Chlorine Service: Brooks No. 1121, or Pennwalt "Varea-Meter" (Wallace & Tiernan)  
Activated Carbon: Brooks No. 3611, or Pennwalt "Varea-Meter" (Wallace & Tiernan)  
Other Chemicals: Brooks No. 1144, or Pennwalt "Varea-Meter" (Wallace & Tiernan)  
Water, Air and Gas Meters: Universal Flow Monitors, Inc. "INSITE" meters or Fischer & Porter

## PART 3 -- EXECUTION

### 3.1 INSTALLATION

- A. Rotameters shall be installed in accordance with the manufacturer's installation instructions and Section 15150.
- B. Unions shall be installed at threaded connections.

\*\* END OF SECTION \*\*